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UTILITY PATENT APPLICATION TRANSMITTAL

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Attorney Docket No. MBHB00-591
First Named Inventor Edward M. Housel
Express Mail No. EL625499950US
Total Pages 27

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APPLICATION ELEMENTS

1. ☒ Transmittal Form with Fee
2. ☒ Specification (including claims and abstract) [Total Pages 15]
3. ☒ Drawings [Total Sheets 2]
4. ☒ Oath or Declaration [Total Pages 2]
 - a. ☒ Newly executed
 - b. ☐ Copy from prior application
[Note Boxes 5 and 17 below]
 - i. ☐ Deletion of Inventor(s) Signed statement attached deleting inventor(s) named in the prior application
5. ☐ Incorporation by Reference: The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
6. ☐ Microfiche Computer Program
7. ☐ Nucleotide and/or Amino Acid Sequence Submission
 - a. ☐ Computer Readable Copy
 - b. ☐ Paper Copy
 - c. ☐ Statement verifying above copies

ACCOMPANYING APPLICATION PARTS

8. ☒ Assignment Papers
9. ☒ Power of Attorney
10. ☐ English Translation Document (if applicable)
11. ☐ Information Disclosure Statement (IDS)
 - ☐ PTO-1449 Form
 - ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Return Receipt Postcard (Should be specifically itemized)
14. ☐ Small Entity Statement(s)
 - ☐ Enclosed
 - ☐ Statement filed in prior application; status still proper and desired
15. ☐ Certified Copy of Priority Document(s)
16. ☐ Other:

17. ☐ This is a CONTINUING APPLICATION. Please note the following:

- a. ☐ This is a ☐ Continuation ☐ Divisional ☐ Continuation-in-part of prior application
- b. ☐ Cancel in this application original claims ____ of the prior application before calculating the filing fee.
- c. ☐ Amend the specification by inserting before the first line the sentence:
This is a ☐ continuation ☐ divisional ☐ continuation-in-part of application Serial No.
- d. ☐ The prior application is assigned of record to

UTILITY PATENT APPLICATION TRANSMITTAL

Attorney Docket No. MBHB00-591

APPLICATION FEES

BASIC FEE				\$710.00
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total Claims	24 -20=	4	x \$18.00	\$72.00
Independent Claims	6 - 3=	3	x \$80.00	\$240.00
<input type="checkbox"/> Multiple Dependent Claims(s) if applicable			+\$270.00	\$
Total of above calculations =				\$1022.00
Reduction by 50% for filing by small entity =				\$()
<input checked="" type="checkbox"/> Assignment fee if applicable			+ \$40.00	\$40.00
TOTAL =				\$1062.00

18. ☐ Please charge my Deposit Account No. 13-2490 in the amount of \$19. ☒ A check in the amount of \$1,062.00 is enclosed.

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- a. ☒ Fees required under 37 CFR 1.16.
 b. ☒ Fees required under 37 CFR 1.17.
 c. ☒ Fees required under 37 CFR 1.18.

21. ☐ The Commissioner is hereby generally authorized under 37 CFR 1.136(a)(3) to treat any future reply in this or any related application filed pursuant to 37 CFR 1.53 requiring an extension of time as incorporating a request therefor, and the Commissioner is hereby specifically authorized to charge Deposit Account No. 13-2490 for any fee that may be due in connection with such a request for an extension of time.

22. CERTIFICATE OF MAILING

I hereby certify that I directed that the correspondence identified above be deposited with the United States Postal Service as "Express Mail Post Office to Addressee" under 37 CFR § 1.10 on the date indicated below and is addressed to the Asst. Commissioner for Patents, Box Patent Application, Washington, DC 20231.

23. USPTO CUSTOMER NUMBER

PATENT & TRADEMARK OFFICE



020306

24. CORRESPONDENCE ADDRESS

Name	McDonnell Boehnen Hulbert & Berghoff
Address	
City, State, Zip	

25. SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Name	Curt J. Whitenack
Reg. No.	36,054
Signature	
Date	October 19, 2000

EXPRESS MAIL NO. EL625499950US
APPLICATION FOR UNITED STATES LETTERS PATENT

SPECIFICATION

(Case No. MBHB00-591)

TO ALL WHOM IT MAY CONCERN

Be it known that Edward M. Housel, a citizen of the United States and a resident of Rochester, New York has invented certain new and useful improvements in a

METHOD OF GENERATING PRINTER SETUP INSTRUCTIONS

of which the following is a specification.

ATTORNEY:

CURT J. WHITENACK
McDonnell, Boehnen, Hulbert & Berghoff
300 S. Wacker Drive
Chicago, Illinois 60606
(312) 913-0001

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a method of generating printer setup instructions and controlling a printer having attached finishing devices. More particularly, this invention relates to a method of generating a printed instruction sheet listing the setup instructions for finishing devices attached to the printer, allowing the setup operator to carry the printed instruction sheet to the user interface on the finishing device to input the setup instructions, without having to input the instructions from memory. Additionally, the method provides for coordination of the setup instructions with a particular print job by automatically placing all print jobs in a hold state until the operator releases the print job.

2. Brief Description of the Related Art

High-speed printers and copiers are often connected to so-called “finishing devices,” such as a perfect binding machine, three-hole punch and the like. Each of the finishing devices connected to the printer must be setup for a particular print job. For example, a hole punch may have mechanical detents that must be set to a predetermined configuration for a given print job. These finishing devices are connected to the printer by a simple electrical connection, consisting of a relatively small number of wires. Thus, the electrical connection between the printer and the finishing device may be capable of signaling a paper jam in the finishing device or an out-of-paper condition, but is not capable of transmitting or receiving large amounts of data or more sophisticated messages to or from the printer logic control unit (LCU). Moreover, the finishing device may be made by a third-party manufacturer and, therefore, there may be no means for even rudimentary control of the finishing device through the printer LCU. Because of these limitations, current printer systems do not provide for entry of finishing device setup instructions through the printer user interface.

In the case of a stand-alone network printer, the print jobs are submitted through the network. Alternatively, the print job could be entered through the printer user interface. In any event, when the print job is submitted through the network or printer user interface, the submitter enters certain data, often referred to as job ticket data, that

includes information about certain characteristics of the job, such as paper size, and paper handling and finishing instructions, including setup instructions for the necessary finishing devices to be used in completing the print job. Such setup information is generally entered in an operator message that will be displayed on the printer user interface when the job arrives at the printer.

When a print job is entered through the network interface, the job is placed in a print server queue on the network, until a slot opens in the raster image processor (RIP) queue in the printer system. When the print job is transferred to the RIP queue, it is assigned a print job number and the RIP generates an operator message, if one is associated with the print job. The setup instructions for a given print job are displayed on the printer user interface as an operator message. The operator message informs the operator that a certain print job requires custom finishing device setup, and specifies the particular finishing device setup parameters. However, as discussed above, while the finishing device setup instructions for a particular job are displayed on the printer user interface, it is impossible, given the current state of the art, to enter setup information for finishing devices through the printer user interface. Moreover, typical printer user interfaces allow the display of only a limited amount of information in an operator message, for example sixty-three characters, thereby imposing restrictions on the amount of instructions that may be displayed at a given time on the printer user interface. This results in a limited amount of information being provided to the operator, possibly in a cryptic, abbreviated fashion, making it difficult for inexperienced operators to properly setup the machine and making it more likely that even experienced operators will misunderstand the instructions.

Typical arrangements of printer systems often place the finishing devices some twenty to thirty feet from the printer user interface. Thus, the operator is required to read the setup instructions from the printer user interface, quickly memorize the setup instructions for one or more finishing devices, walk to the finishing devices and enter the individual setup instructions for each print job. This limitation introduces the potential for human error, in that the operator must accurately recall and enter the setup instructions for a particular job at a location remote to where the instructions are displayed. At the high print volumes made possible by high-speed, high-capacity printer

systems, human error in the setup of finishing devices can result in expensive wasted print runs, where, for example, the hole punch is setup incorrectly and places the holes in other than the desired locations. Furthermore, it is impossible for the operator to re-check the instructions he or she has entered without repeating the entire process, walking back to the printer user interface, re-reading the instructions, walking back to the finishing device and re-checking the instructions entered. In addition to the potential for human error, this process slows down the preparation and execution of print jobs, thus impairing overall productivity. Therefore, there is a need in the art for an improved method of displaying instructions that would minimize the reliance on operator memory and would minimize the amount of times the operator is required to walk back and forth between the printer user interface and the finishing devices. Additionally, there is a need in the art for an improved method of generating setup instructions that would increase the amount of information available to the operator.

Finally, the operator must perform all of the finishing device setup tasks individually on multiple print jobs that are processed sequentially through the print system at a high rate of speed. The potential therefore exists for a situation in which the operator sets up a given finishing device for particular print job while there are other print jobs in the marking engine queue that may not generate operator messages. The operator may therefore setup finishing devices for the first print job, and a later print job may come through the system before the operator is able to re-set the finishing devices for the later job, thus wasting the materials expended in the later print job.

Accordingly, there exists a need in the art for a method of setting up finishing devices for individual print jobs while preventing later print jobs that may be resident in the marking engine queue from being processed before the operator has re-set the finishing device parameters for the next print job.

SUMMARY OF THE INVENTION

In one embodiment, the invention is a method of performing setup operations on a finishing device connected to an electrophotographic printer, the printer having a printer user interface, in which a print job is entered into the printer, the print job including setup instructions for at least one finishing device written as an operator message. Following entry of such a print job, the printer system automatically prints an instruction sheet

listing setup operations to be performed prior to completing the print job and automatically places on hold all pending print jobs that specify the designated finishing device. Alternatively, the system could place all print jobs on hold, or could place on hold all jobs including operator instructions. The operator then performs the setup
5 operations listed on the printed instruction sheet and, when setup is complete, enters a release code to thereby release the print job from hold and allow the printer to complete the print job.

In another embodiment, the method includes additional steps, wherein the printer accesses a database of setup instructions that are to be performed on the at least one
10 finishing device, retrieves a file from the database containing instructions for a specified finishing device, reads and translates the file into a page description file that is rasterized and incorporated into the printed instruction sheet.

In an additional embodiment, the invention is a method of managing a printer system, including the steps of receiving a print job and determining whether the print job
15 includes operator instructions. If the print job specifies a finishing device, the printer system determines whether the print job includes instructions directing an operator to perform specific setup operations and, if so, places all print jobs on hold and prints an instruction sheet listing a series of setup operations to be performed by the operator. The operator then performs the setup operations listed on the printed instruction sheet and,
20 when setup is completed, the operator enters a code that removes the hold, allowing the print jobs to proceed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagrammatic representation of a printing system with attached finishing
25 devices.

FIG. 2 is block diagram illustrating the architecture of a typical print system employing the present invention.

FIG. 3 is a flow diagram illustrating the operation of a typical print system employing the present invention.

DETAILED DESCRIPTION OF THE DRAWINGS AND PREFERRED EMBODIMENTS

Referring to Figs. 1 & 2, a typical print system **10** of the type employing the present invention includes a printer **20** having a printer user interface **22** and a top exit copy tray **24**. While the exemplary print system **10** shown is a network printing system configured to receive remote input through a network connection, other configurations are contemplated and possible within the scope of the present invention. For example, the printing system could be a stand alone printer, including a scanner for on-site image input. While a particular printer configuration is discussed herein, it is to be understood that the present invention may be incorporated in other printing system configurations.

The printer **20** includes a raster image processor **26** that receives incoming data from a network **28** to which the printer **20** is connected. Prior to being transferred to the raster image processor **26**, the print job may be held in a print server queue **27** on the network **28**. The raster image processor **26** includes processing unit **30**, that receives control commands and data from the network **28**. Control commands are translated into machine control language by the processing unit **30**, while incoming print jobs and program codes are stored in a print job buffer **32**, also referred to herein as the RIP queue.

The printer **20** also includes a marking engine **40**, that incorporates standard paper handling and processing equipment necessary, for example, for producing images on output paper. The marking engine **40** receives and stores in a multiple page image buffer **23**, a data stream, including image data and control data generated by the processing unit **30**. The image data is processed and transmitted to a write head (not shown) for transfer to the output pages.

The marking engine **40** also includes output devices that transfer the printed out pages to one or more finishing devices **42** connected to the printer **20** by a simple electrical connection **12**. The finishing device **42** includes a finishing device user interface **43**. The finishing device **42** may be any commonly used finishing device, such as a hole punch or binder.

The printer **20** includes a logic control center **50**, including a printer user interface **22**, through which the operator inputs functions and receives messages from the printer **20**. The printer **20** also includes a database **60** of shared instructions, stored on a local

disk, accessed by the RIP. The instructions stored in the database include, for example, setup instructions for a particular finishing device that are to be followed by the operator in all cases, regardless of the particular configuration chosen. Generally, these instructions will include directions as to how to physically set up a given finishing device. For example, a hole punch may have detents that must be physically moved to a desired position, but are secured by spring-loaded pins that must be removed prior to moving the detents. Likewise, the shared instructions may remind the operator to power down a particular finishing device prior to performing setup operations thereon, should that step be necessary.

Furthermore, because the shared instructions are stored on a local disk, the end-user may alter the shared instructions stored thereon to suit the end-user's individual needs. Typically, the database will include one file for each commonly encountered finishing device, in as many different languages, *i.e.*, English, French, Spanish, etc., as desired, a separate file for each such language. In practice, when the job submitter includes text in the instruction field of the job entry menu on the network, this text directs the RIP to retrieve the file for the appropriate finishing device identified in the instructions. The RIP retrieves and reads the disk file in the appropriate language for the selected finishing device, translates the file into a page description file that is rasterized and incorporated into the user instructions that are printed as the instruction sheet.

A preferred embodiment of the method of the present invention is demonstrated by the flowchart depicted in Fig. 3. The method includes receiving a print job from the network at Step 100. Step 102 inquires whether the job specifies a third-party finishing device, such as a hole punch or perfect binder. If the response to Step 102 is negative, Step 104 inquires whether there are special instructions specified for the print job. If the response to Step 104 is negative, the print job is allowed to continue to Step 105 in which the print job is transferred to the marking engine and allowed to continue to completion, Step 105. If, however, the response to Step 104 is affirmative, the instructions are printed in Step 106, and the message "Holding for Instructions" is displayed on the printer user interface in Step 108. Step 110 is an inquiry to determine whether the instructions have been printed, and if a negative response is received, Step 110 is repeated until an affirmative response is received. When an affirmative response is received to Step 110,

Step 112 displays the message “Resume Job When Ready” on the printer user interface, followed by Step 114, in inquiry as to whether the job has been resumed. When a negative response is received to Step 114, Step 114 is repeated until an affirmative response is received. When an affirmative response to Step 114 is received, the message “Resumed” is displayed on the printer user interface, and the print job is passed to the marking engine and allowed to continue to completion.

When the response to Step 102 is affirmative, Step 118 inquires whether the job includes operator instructions. If the response to Step 118 is negative, Step 120 inquires whether there is a system “hold” for a third-party finishing device. If the response to Step 120 is affirmative, step 122 displays a “System Hold” message on the printer user interface, and Step 120 is repeated until a negative response is received. When a negative response to Step 120 is received, Step 124 displays a “Ready to Print” message on the printer user interface and the print job is passed to the marking engine and allowed to continue to completion Step 125.

When the response to Step 118 is affirmative, Step 126 inquires whether there is a system hold for a third-party finishing device. If the response to Step 126 is affirmative, Step 128 displays a “System Hold” message on the printer user interface and repeats Step 126 until a negative response is received. When a negative response to Step 126 is received, Step 130 initiates a “system hold” for all print jobs that specify the particular third party finishing device referenced in Step 102 and prints an instruction sheet, listing the instructions entered by the job submitter in entering the job on the network, to the top exit tray. Step 132 displays a “Holding for Instructions” message on the printer user interface, and Step 134 inquires whether the instruction sheet has been printed. If the response to Step 134 is negative, Step 134 is repeated until an affirmative response is received, whereupon Step 136 displays a “Resume When Third-Party Finisher is Fully Setup” message on the printer user interface. Step 138 inquires whether the job has been resumed and, in the case of a negative response, is repeated until an affirmative response is received. When an affirmative response is received to Step 138, Step 140 displays a “Resumed” message on the printer user interface and Step 142 removes the “system hold” for jobs using the finishing device specified in Step 102, the print job is transferred to the marking engine and the job is allowed to continue to completion, Step 143.

When a print job is transferred from the print server queue 27 to the RIP queue 32, if the print job submitter has not entered any text in the instruction field of the job setup menu on the network 28, the RIP 26 sends the print job to the marking engine 40 and the print job is finished. In one embodiment of the invention, when the RIP 26
5 detects any text in the instructions field, the RIP 26 prints the instruction sheet to the top exit tray 24 according to the operator message and then places the printer 20 in a “system hold” state, automatically holding all incoming print jobs either in the print server queue 27 or in the RIP queue 32. Thus the print system 10 automatically prints the instruction sheet and enters a hold state, without operator intervention, and remains in this state
10 indefinitely until the operator releases the print job, presumably after making the necessary finishing device setup operations.

In an alternative embodiment, the RIP 26 causes the marking engine 40 to print the instruction sheet and causes the print system 10 to enter a hold state only if the instructions include a finishing device 42 selection. If no finishing device 42 is selected,
15 the print job continues to completion without system interruption.

After the instruction sheet is printed and the system 10 enters the “system hold” state, the operator removes the printed instruction sheet from the top exit tray 24 and carries the instruction sheet to the finishing device 42 for reference purposes during set up of the finishing device 42. By carrying the printed instruction sheet to the finishing
20 device 42, the operator is able to refer to the instruction sheet while performing the necessary setup operations at the remote finishing device 42, obviating the need for the operator to remember the instructions and enabling the operator to re-check the settings without walking back to the printer user interface 22. Once the setup instructions are entered on the finishing device user interface 33 or the physical setup operations are
25 performed on the finishing device 42 and rechecked, if necessary, the operator returns to the printer user interface 22 and releases the print job by entering a release code, such as by touching an appropriate region of a touch screen on the printer user interface 22 or by clicking a mouse on a computer screen of the printer user interface 22. Once the job is released, the RIP 26 sends the print job to the marking engine 40 and the print job is
30 completed.

5

I CLAIM:

1. A method of performing setup operations on a finishing device connected to an electrophotographic printer, the printer having a printer user interface, comprising the steps of:
 - 5 a) entering a print job into the printer, the print job including setup instructions for at least one finishing device written as an operator message;
 - b) automatically printing an instruction sheet listing setup operations to be performed prior to completing the print job;
 - c) automatically placing all pending print jobs on hold;
 - 10 d) performing the setup operations listed on the printed instruction sheet; and
 - e) entering a release code to thereby release the print job from hold and allow the printer to complete the print job.
2. The method of claim 1, further comprising the steps of:
 - 15 a. accessing a database of setup instructions that are to be performed on the at least one finishing device;
 - b. retrieving a file from the database containing instructions for a specified finishing device;
 - c. reading the file; and
 - d. translating the file into a page description file that is rasterized and incorporated into the printed instruction sheet.
3. The method of claim 1 wherein the print job is entered through a network.
4. The method of claim 1 wherein the printer is a stand-alone unit including a scanner that provides image data to the printer.

5. A method of performing setup operations on a finishing device connected to an electrophotographic printer, the printer having a printer user interface, comprising the steps of:
 - a) entering a print job into the printer, the print job including setup instructions for at least one finishing device written as an operator message;
 - b) automatically printing an instruction sheet listing setup operations to be performed prior to completing the print job;
 - c) automatically placing on hold all pending print jobs that specify the finishing device;
 - d) performing the setup operations listed on the printed instruction sheet; and
 - e) entering a release code to thereby release the print job from hold and allow the printer to complete the print job.
6. The method of claim 5, further comprising the steps of:
 - a. accessing a database of setup instructions that are to be performed on the at least one finishing device;
 - b. retrieving a file from the database containing instructions for a specified finishing device;
 - c. reading the file; and
 - d. translating the file into a page description file that is rasterized and incorporated into the printed instruction sheet.
7. The method of claim 5 wherein the print job is entered through a network.
8. The method of claim 5 wherein the printer is a stand-alone unit including a scanner that provides image data to the printer.

9. A method of managing a printer system, comprising the steps of:

- a. receiving a print job;
- b. determining whether the print job specifies a finishing device and whether the print job includes instructions directing an operator to perform specific setup operations and, if so, placing all print jobs on hold;
- c. printing an instruction sheet listing a series of setup operations to be performed by the operator;
- d. performing the setup operations listed on the printed instruction sheet; and
- e. entering a code that removes the hold, allowing the print job to proceed.

10. The method of claim 9, wherein at least some of the instructions for setup operations are stored on a local disk.

11. The method of claim 9 wherein the print job is received from a network.

12. The method of claim 9 wherein the printer is a stand-alone unit including a scanner that provides image data to the printer.

13. A method of managing a printer system, comprising the steps of:

- a. receiving a print job;
- b. determining whether the print job specifies a finishing device and whether the print job includes instructions directing an operator to perform specific setup operations and, if so, placing on hold all print jobs that specify the finishing device;
- c. printing an instruction sheet listing a series of setup operations to be performed by the operator;
- d. performing the setup operations listed on the printed instruction sheet; and
- e. entering a code that removes the hold, allowing the print jobs to proceed.

14. The method of claim 13 wherein at least some of the instructions for setup operations are stored on a local disk.

15. The method of claim 13 wherein the print job is received from a network.

16. The method of claim 13 wherein the printer is a stand-alone unit including a scanner that provides image data to the printer.

17. A method of managing a printer system, comprising the steps of:

- a. setting up a print job using a setup menu that includes an instruction field in which operator setup instructions may be entered;
- b. submitting the print job to the printer;
- 5 c. determining whether any text has been entered in the instruction field and, if so, placing all print jobs on hold;
- d. printing an instruction sheet comprising the text entered in the operator instruction field;
- e. performing one or more setup operations listed on the printed instruction sheet; and
- 10 f. entering a code that removes the hold, allowing the print jobs to proceed.

18. The method of claim 17, wherein at least some of the instructions for setup operations are stored on a local disk.

19. The method of claim 17 wherein the print job is setup on a network.

20. The method of claim 17 wherein the printer is a stand-alone unit including a scanner that provides image data to the printer.

21. A method of managing a printer system, comprising the steps of:

- a. receiving a print job;
- b. determining that the print job includes operator instructions ;
- 20 c. automatically placing the print job on hold while allowing other print jobs to continue;
- d. printing an instruction sheet corresponding to the operator instructions;
- e. reviewing the printed instruction sheet and performing operations specified by the operator instructions; and
- 25 f. entering a code that removes the hold, allowing the print job to proceed.

22. The method of claim 21, wherein at least some of the operator instructions are stored on a local disk.

23. The method of claim 21 wherein the printer is a stand-alone unit including a scanner that provides image data to the printer.

30 24. The method of claim 21 wherein the print job is setup on a network.

ABSTRACT

The invention is an improved method of generating setup instructions for use with a printing system having connected thereto one or more finishing devices. The invention involves printing a sheet of setup instructions which the operator carries to the finishing device to be setup, so that the operator may refer to the printed instructions while setting up the finishing device. The printed sheet allows more extensive, clear instructions to be communicated to the operator than is possible on the printer user interface. The method also involves automatically placing one or more print jobs on hold during setup, until the operator has finished setting up the system and released the job.

5

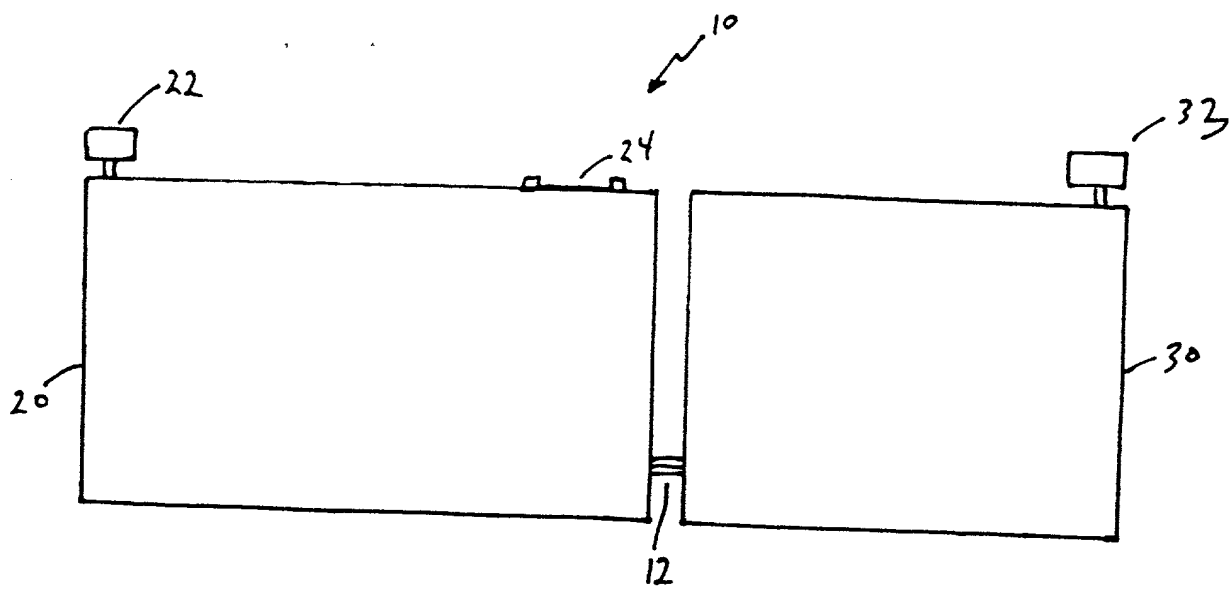


Fig. 1

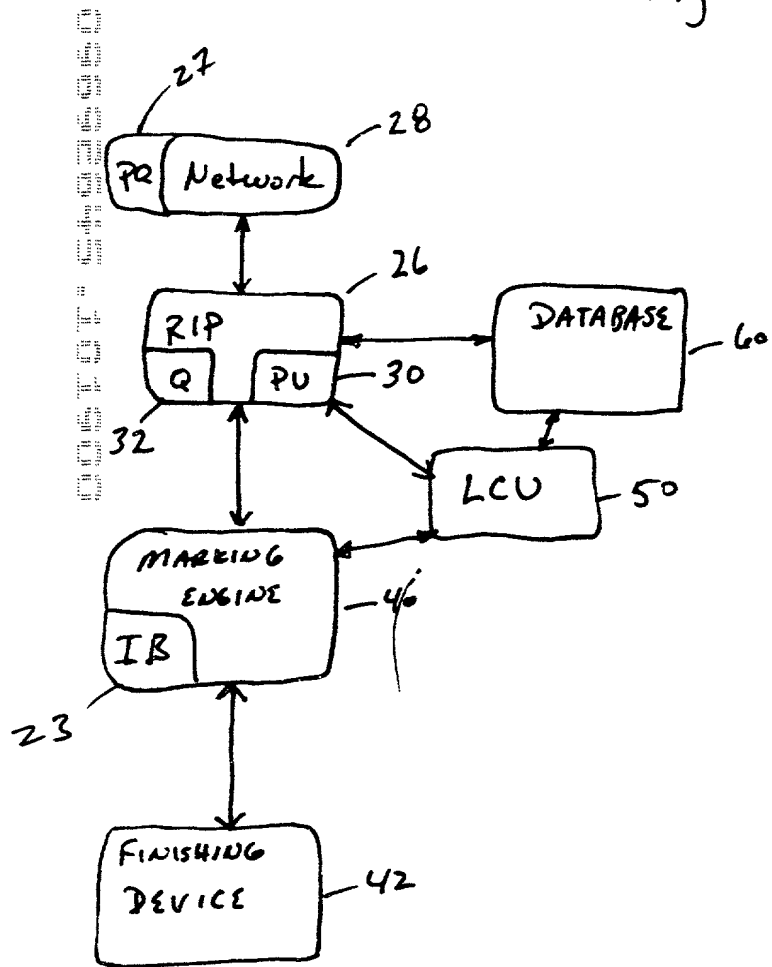


Fig. 2

Flowchart For Instruction Sheet Job Handling

Ed Heusel

9/13/2000

Docket 80431

Heidelberg Digital LLC

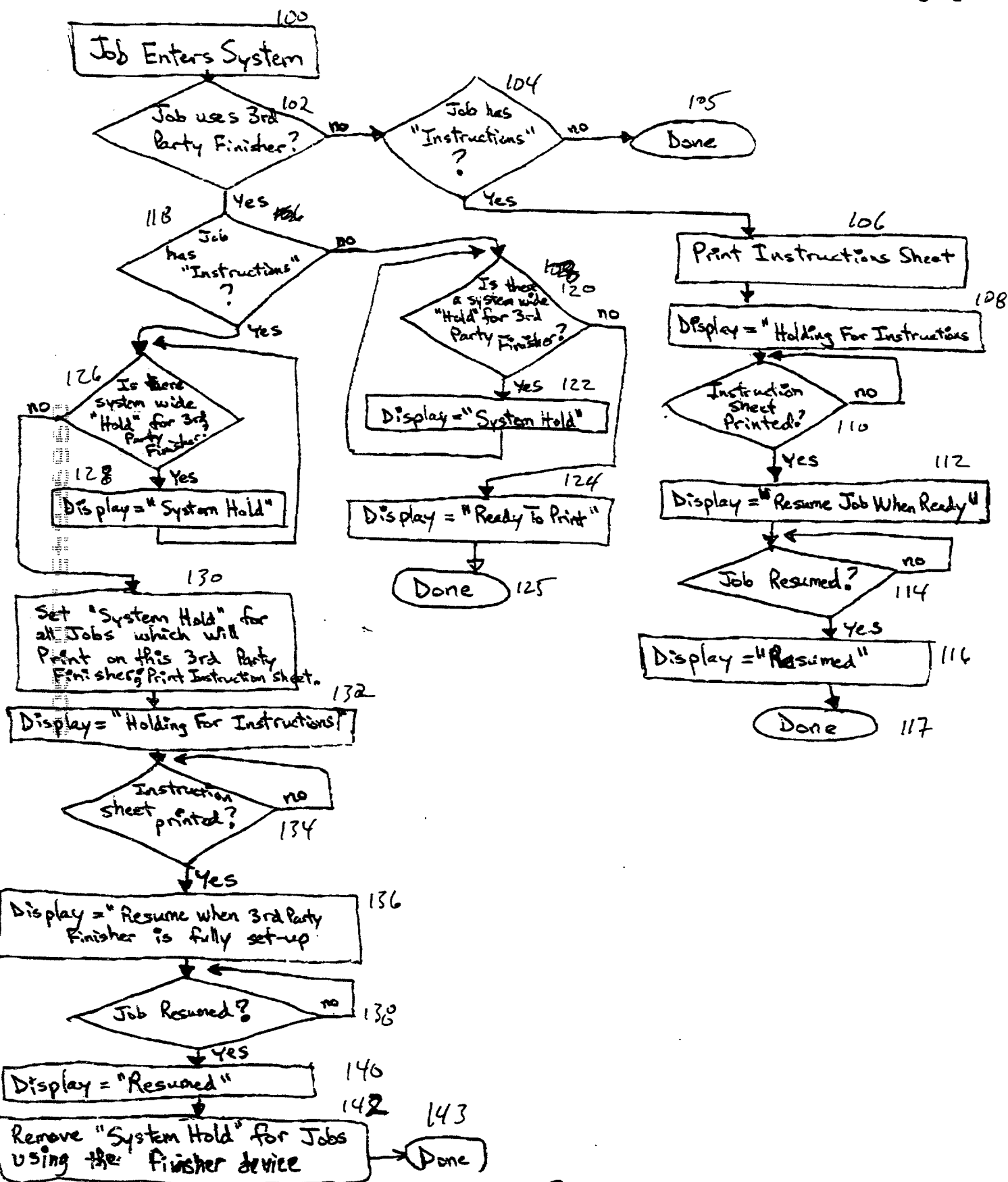


Fig. 3

EXPRESS MAIL No. EL625499950US

Case No.: MBHB00-591

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

METHOD OF GENERATING PRINTER SETUP INSTRUCTIONS

the specification of which is attached hereto unless the following space is checked:

☐ was filed on _____ as United States Application Serial Number _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s):

<u>Number</u>	<u>Country</u>	<u>Day/Month/Year Filed</u>
---------------	----------------	-----------------------------

- 1.
- 2.

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

<u>Application Number</u>	<u>Filing Date</u>
---------------------------	--------------------

- 1.
- 2.

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

<u>Application Number</u>	<u>Filing Date</u>	<u>Status: patented, pending, abandoned</u>
---------------------------	--------------------	---

- 1.
- 2.

I hereby appoint the following attorneys and agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Denis A. Berntsen	Reg. No. 26707	Jeremy Noe	Reg. No. 40104
John J. McDonnell	Reg. No. 26949	Sean M. Sullivan	Reg. No. 40191
Daniel A. Boehnen	Reg. No. 28399	Timothy R. Baumann	Reg. No. 40502
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A. Blair Hughes	Reg. No. 32901	David S. Harper	Reg. No. 42636
Thomas A. Fairhall	Reg. No. 34591	Lisa M.W. Hillman	Reg. No. 43637
Emily Miao	Reg. No. 35285	Stephen Lesavich	Reg. No. 43749
Kevin E. Noonan	Reg. No. 35303	Enrique Perez	Reg. No. 43853
Leif R. Sigmond, Jr.	Reg. No. 35680	Marcus J. Thymian	Reg. No. 43954
Lawrence H. Aaronson	Reg. No. 35818	S. Richard Carden	Reg. No. 44588
Matthew J. Sampson	Reg. No. 35999	Mark L. Chael (agent)	Reg. No. 44601
Curt J. Whitenack	Reg. No. 36054	Stephen H. Docter	Reg. No. 44659
Christopher M. Cavan	Reg. No. 36475	Anita J. Terpstra	Reg. No. 47132
Michael S. Greenfield	Reg. No. 37142	Galina M. Yakovleva	Reg. No. 47192
Roger P. Zimmerman	Reg. No. 38670	James A. Cairns	Reg. No. 32557
Anthoula Pomrening	Reg. No. 38805	Kevin L. Leffel	Reg. No. 37379
George I. Lee	Reg. No. 39269	Richard A. Romanchik	Reg. No. 33766
James M. McCarthy	Reg. No. 39296	John L. Wood	Reg. No. 32183
Monica Grewal	Reg. No. 40056		

Address all telephone calls to Curt J. Whitenack at (312) 913-0001.

Address all correspondence to McDONNELL BOEHNEN HULBERT & BERGHOFF, 300 South Wacker Drive, Chicago, Illinois 60606 USA.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: Edward M. Housel

Inventor's signature: Edward M. Housel
 Residence: 315 Miramar Rd, Rochester NY 14624
 Citizenship: United States of America
 Post Office Address: 315 Miramar Rd, Rochester NY 14624

Date: 10/13/2000